REMARKS

Applicant has studied the Office Action of February 6, 2002 ("Office Action"). It is respectfully submitted that the application, as amended, is in condition for allowance. Claims 1 and 16-71 are pending in the present application. Claim 1 has been amended. Claims 2-15 have been canceled without prejudice or disclaimer. New claims 16-71, including new independent claims 16, 17 and 66-70 have been added. Reconsideration and allowance of the claims in view of the above amendments and the ensuing remarks are respectfully requested.

EXAMINER OBJECTION: ABSTRACT

The Examiner objected to the abstract of the disclosure because it fails to point out any detail in the technical features that render it new in the art. The abstract has been amended as set forth in the foregoing section to fully comply with the requirements of MPEP §608.01(b). Applicant respectfully requests that the Examiner withdraw the objection to the abstract.

CLAIM REJECTION: §102(e) – Hazlehurst et al.

The Examiner rejected claims 1 and 9 under 35 U.S.C. §102(e) as being anticipated by Hazlehurst et al. (U.S. Patent No. 6,289,353).

Claim 9 has been cancelled without prejudice or disclaimer and Examiner's rejection is, therefore, moot. Applicant respectfully submits that claim 1, as amended and new claims 16 - 71 more particularly point out the distinguishing features of the present invention over Hazlehurst et al. Specifically, Hazlehurst et al. teaches a system in which automated training techniques are used to facilitate automated emergence of information spaces in which objects are represented as vectors of real numbers. Documents are managed by collators that act as classifiers of overlapping portions of the database of documents. In other words, Hazlehurst et al. teaches a system in which every word is a dimension in a vector defined by automated training and a search result will only operate to find those portions where there is overlap between vectors. As this is occurring, the system operates to alter the vector and develop relationships between documents using automated training. Thus, document relationships are continuously established by automated training according to the particular vector overlap between documents. Relationships are established simply by the number of occurrences of particular words in the

documents which causes for greater vector overlap. However, Hazlehurst et al. does not allow a user to take advantage of known relationships between concepts that have been independently predetermined, allowing for greater search accuracy and efficiency, as described in the present invention.

The claimed invention relies on searching for information within a semantic space, wherein the closeness in meaning between a search query and a result is based upon a predetermined semantic relationship between particular concepts embodying any particular query and/or result. The present invention does not rely on vector overlap of particular words within a document in order to determine relationships between documents. Rather, in the present invention, the documents themselves are not related, it is concepts within them that have a predetermined semantic relationship. The concepts have a predetermined semantic relationship that may cause certain documents to be related for one search query but not another. In other words, in contrast to Hazlehurst et al., in the present invention, establishing relationships between concepts is performed by utilizing a semantic space in which there is a predetermined relationship between each concept. As described above, Hazlehurst et al. relies on continuous establishment of document relationships and does not allow a user to gain the benefit of known relationships between concepts.

Moreover, as described above, the present invention utilizes predetermined semantic relationships between concepts in order to determine the closeness in meaning between those concepts. The use of machine learning as described in Hazlehurst et al. would explicitly defy the aspect of the present invention that allows for assigning a monetary value to a particular semantic location because such location would not be a fixed location, as required by the claimed invention, but would be a fluid location dependent on the properties of the documents used in training (as opposed to coming from a fixed semantic space as in the claimed invention).

In view of the foregoing, Applicant respectfully submits that claim 1, as amended, is allowable in view of Hazlehurst et al. Similarly, Applicant respectfully submits that new claims 16-71, which are not anticipated by Hazlehurst et al. because they recite the claimed invention in which a predetermined relationship between each concept in sets of concepts is utilized to

determine the closeness in meaning of the concepts, rather than the automated learning and vector relationship approach described in Hazlehurst et al.

CLAIM REJECTION: SECTION 102(b) - Fellbaum

The Examiner rejected claims 14 and 15 under 35 U.S.C. §102(b) as being anticipated by Fellbaum ("Wordnet: An Electronic Lexical Database"). Claims 14 and 15 have been cancelled without prejudice or disclaimer and Examiner's rejection is, therefore, moot. Applicant respectfully submits that new claims 16-71 are not anticipated by Fellbaum. The method of searching in the present invention relies upon calculating and combining the known semantic distance between concepts within two sets of concepts to provide a method of representing the closeness in meaning between the two sets of concepts. Fellbaum does not teach or suggest any such calculation. Rather, Fellbaum simply "expands" the meaning of words to related concepts. This is a very different approach to searching because, unlike the present invention, Fellbaum does not rely upon known semantic relationships between concepts and use that relationship to *narrow* a particular search to only those concepts sought. Indeed, Fellbaum's teaching of *expanding* the search is completely inapposite to the system of the present invention because Fellbaum causes a search to be expanded beyond the concepts sought rather than narrowing the search to only those concepts sought by combining known semantic relationships between each concept within two sets of concepts and avoiding the need to expand any particular concept to find additional concepts that are close in meaning.

Consequently, Applicant respectfully submits that new claims 16 - 71 are allowable over Fellbaum.

JOINT INVENTORS

In accordance with its obligation under 37 CFR 1.56, applicant confirms that the subject matter of all claims was commonly owned at the time of the invention disclosed and claimed in the pending patent application.

CLAIM REJECTION: §103(a) – Hazlehurst et al.

The Examiner rejected claims 2-5 35 U.S.C. §103(a) as being unpatentable over Hazlehurst et al. Claims 2-5 have been cancelled without prejudice or disclaimer and Examiner's rejection is, therefore, moot.

Moreover, Applicant respectfully submits that new claims 16-71 are not rendered obvious by Hazlehurst et al. for at least the same reasons set forth above. That is, the claimed invention does not rely on vector analysis or automated training to execute a search. Rather, the claimed invention relies upon predetermined, known semantic distances between concepts in order to relate sets of concepts that are close in meaning.

Consequently, Applicant respectfully submits that new claims 16-71 are allowable.

CLAIM REJECTION: §103(a) – Hazlehurst et al. in view of Lazarus et al.

The Examiner rejected claims 6, 7, 10 and 11 under 35 U.S.C. §103(a) as being unpatentable over Hazlehurst et al. as applied to claims 1 and 9 and further in view of Lazarus et al. (U.S. Patent No. 6,134,532). Claims 6, 7, 10 and 11 have been cancelled without prejudice or disclaimer and Examiner's rejection is, therefore, moot.

Moreover, Applicant respectfully submits that new claims 16-71 are not rendered obvious by Hazlehurst et al. in view of Lazarus et al. for at least the same reasons set forth above. That is, the use of vectors to assign a dimension to particular terms is entirely distinguishable from the novel concept described and claimed in the present application of a predetermined semantic space for various concepts and determining the relationship of sets of concepts based on combining the semantic distances between each concept within the sets of concepts.

Consequently, Applicant respectfully submits that new claims 16-71 are allowable in light of Hazelhurst et al. in view of Lazarus et al.

CLAIM REJECTION: §103(a) – Hazlehurst et al. in view of Fellbaum

The Examiner rejected claim 8 under 35 U.S.C. §103(a) as being unpatentable over Hazlehurst et al. as applied to claims 1 and 9 and further in view of Fellbaum. Claim 8 has been

cancelled without prejudice or disclaimer and Examiner's rejection is, therefore, moot. Moreover, Applicant respectfully submits that new claims 16-71 are not rendered obvious by Hazlehurst et al. in view of Fellbaum for at least the same reasons as set forth above.

Consequently, Applicant respectfully submits that new claims 16-71 are allowable in light of Hazelhurst et al. in view of Fellbaum.

CLAIM REJECTION: §103(a) – Hazlehurst et al. in view of Lazarus et al. in view of Eldering

The Examiner rejected claims 12 and 13 under 35 U.S.C. §103(a) as being unpatentable over Hazlehurst et al. in view of Lazarus et al. in view of Eldering (U.S. Patent No. 6,298,348). Claims 12 and 13 have been cancelled without prejudice or disclaimer and Examiner's rejection is, therefore, moot.

Moreover, Applicant respectfully submits that new claims 16-71 are not rendered obvious by Hazlehurst et al. in view of Lazarus et al. in view of Eldering for at least the same reasons set forth above.

Additionally, with particular focus on Eldering, the reference teaches the use of matching an advertisement to a user based on the number of matched variables. There is no teaching or suggestion of providing a "semantic match" in which the closeness in meaning between two concepts, rather than a vector overlap of exact variables, is implemented.

Consequently, Applicant respectfully submits that new claims 16-71 are allowable in light of Hazelhurst et al. in view of Lazarus et al. in view of Eldering.

ADDITIONAL REFERENCES CITED BY EXAMINER

Applicant has considered the additional references made of record and not relied upon by the Examiner. Applicant finds these references no more relevant and entirely distinguishable from the claimed invention for at least the same reasons as stated herein.

CONCLUSION

In view of the foregoing, it is respectfully submitted that all claims of the present application are in condition for allowance. Entry of the amendment, and reexamination and reconsideration of the application, as amended, are respectfully requested, as is allowance of all claims at an early date.

Applicant's attorney respectfully requests an interview with the Examiner handling the present patent application in the event that this case is not now considered to be entirely in condition for allowance.

If it should be determined, for any reason, that an insufficient fee has been paid, please charge any insufficiency to ensure consideration and allowance of this amendment to the present application to Deposit Account No. 03-3975.

Respectfully submitted,

PILLSBURY WINTHROP LLP

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By: James M. Wakely

James M. Wakely
Registration No. 48,597
Attorney for Applicant(s)
725 South Figueroa Street
Suite 2800
Los Angeles, CA 90017-5406
Telephone: (213) 488-7100
Facsimile: (213) 629-1033

APPENDIX

IN THE SPECIFICATION:

The abstract has been amended as follows:

[A method for advertising on electronic data networks based upon semantic differentiation.]

The present invention is directed to a system in which a semantic space is searched in order to determine the semantic distance between two locations. A further aspect of the present invention provides a system in which a portion of semantic space is purchased and associated with a target data set element which is returned in response to a search input. The semantic space is created by a lexicon of concepts and relations between concepts. An input is associated with a location in the semantic space. Similarly, each data element in the target data set being searched is associated with a location in the semantic space. Searching is accomplished by determining a semantic distance between the first and second location in semantic space, wherein this distance represents their closeness in meaning and where the cost for retrieval of target data elements is based on this distance.

IN THE CLAIMS:

Claims 2-15 have been cancelled.

Claim 1 has been amended as follows:

1. (Amended) A method comprising:

determining a first semantic sub-space within a semantic space in response to an input [term] query; and

displaying [at least one document] one or more documents positioned within said first semantic sub-space if any documents are contained therein;

wherein said documents are displayed according to the closeness in meaning to said input query and organized according to a monetary value assigned to the position of the documents in said semantic sub-space relative to said input query.